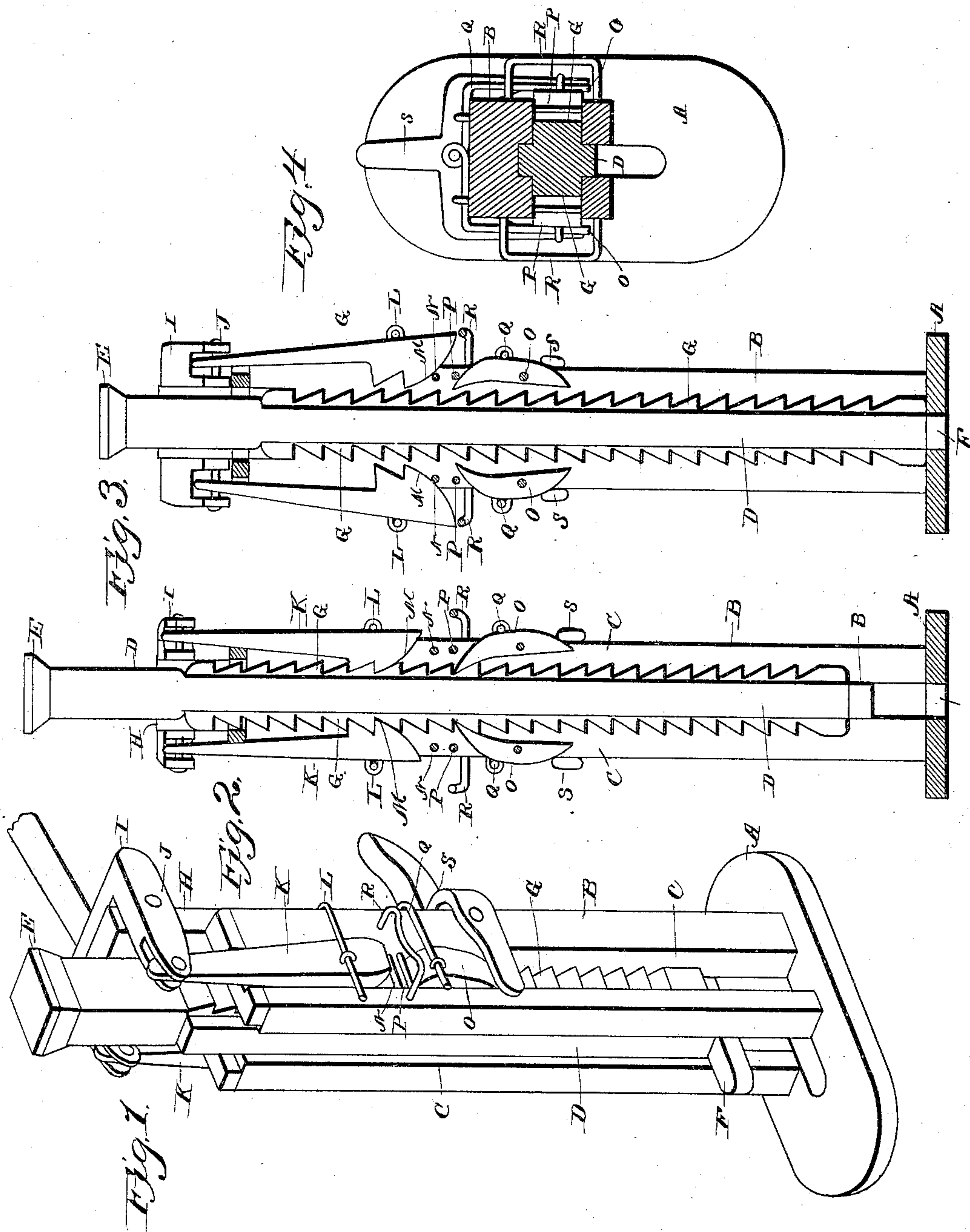


(No Model.)

C. TINDALL.
LIFTING JACK.

No. 415,687.

Patented Nov. 19, 1889.



Witnesses

Inventor

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By *his* Attorneys,

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UNITED STATES PATENT OFFICE.

CHARLES TINDALL, OF UTICA, KANSAS, ASSIGNOR OF ONE-HALF TO JACOB E. DILDINE, OF SAME PLACE.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 415,687, dated November 19, 1889.

Application filed August 23, 1889. Serial No. 321,749. (No model.)

To all whom it may concern:

Be it known that I, CHARLES TINDALL, a citizen of the United States, residing at Utica, in the county of Ness and State of Kansas, have invented a new and useful Lifting-Jack, of which the following is a specification.

My invention relates to improvements in lifting-jacks; and it consists in certain novel features hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved lifting-jack. Fig. 2 is a vertical transverse section. Fig. 3 is a similar view showing the pawls arranged to permit the lowering of the lifting-bar. Fig. 4 is a horizontal section.

In carrying out my invention I employ a base A, which may be of any desired size or construction, and on this base I erect a hollow standard B, having longitudinal slots C in its sides, as shown. Within the hollow standard I arrange the lifting-bar D, having an enlarged head E, and also provided with a foot F, which projects forward from the standard. The lifting-bar is provided on its sides with ratchet-teeth G, which project into the slots C in the standard, and thereby guide the lifting-bar in its movements. At the upper end of the standard I provide the vertical fulcrum-arm H, on which the operating-lever I is fulcrumed, and the said lever is provided with a fork J, which passes around the fulcrum-arm and has the pawls K pivoted to its ends and depending therefrom. These pawls K fit within the longitudinal slots C of the standard and are adapted to engage the ratchet-teeth G on the lifting-bar. The pawls are normally pressed inward into engagement with the lifting-bar by a spring L, which is secured to the rear side of the standard and passes around the same and has its ends bearing against the outer sides of the pawls. The lower ends of the pawls are curved, as shown at M, and are adapted to impinge on cross-pins N, and be thereby directed out of the path of the ratchet-teeth, so as to allow the lifting-bar to descend. Below the pawls K, I pivot within the slots C the locking-pawls O, the upper ends of which are adapted to strike against cross-pins P, adjacent to and below the pins N, and be thereby limited in their movement. The upper ends of these

locking-pawls are pressed normally inward by a spring Q, which is similar to the spring L, as shown. Below the pivot of the pawl O, I pivotally secure to the standards a bifurcated treadle S, the outer end of which is adapted to be depressed by the foot of the operator, so as to throw the inner end against the lower ends of the locking-pawls O, and thereby swing the upper ends of said pawls outward, so as to release them from the lifting-bar. On the sides of the standard I secure the handles R R, by which the device may be lifted and carried from place to place.

The construction and arrangement of the several parts of my device being thus made known, the operation of the same will be readily understood. The weight to be raised is placed upon the head E or the foot F of the lifting-bar, and the operating-lever is then depressed. The lifting-pawls K will be thrown into engagement with the ratchet-teeth of the lifting-bar by the spring L, and the lifting-bar will thus be elevated. After the operating-lever has been depressed to the lowest limit of its movement it is raised, and the lifting-pawls will then ride downward over the ratchet-teeth of the lifting-bar, so as to engage the same at a lower point and again elevate it when the operating-lever is again depressed. The locking-pawls O will be thrown into engagement with the ratchet-teeth G by the spring Q, so as to hold the lifting-bar elevated while the operating-lever is being raised, and will permit the ratchet-teeth to ride upward past their upper ends while the lifting-bar is being raised. When it is desired to lower the lifting-bar, the treadle S is depressed by the foot, thereby releasing the locking-pawls from the lifting-bar, and the operating-lever is then raised. As the operating-lever is raised the lifting-pawls will of course be lowered, and their lower ends will thus be brought against the cross-pins N, and be consequently directed outward against the tension of the spring L, so as to be released from the ratchet-teeth, when the lifting-bar will at once fall of its own weight.

From the foregoing description, taken in connection with the accompanying drawings, it will be seen that I have provided a very simple and compactly-arranged lifting-jack,

by the use of which heavy weights may be easily raised, and in which the lifting-bar will be effectually held against accidental descent while in operation. It will be observed that the pawls are normally in engagement with the ratchet-teeth of the lifting-bar, so that when it is desired to permit the lifting-bar to descend it is necessary to entirely release the pawls therefrom, and by the mechanism shown and described this desired release can be easily and quickly accomplished.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the hollow standard, the lifting-bar mounted in the standard and provided with ratchet-teeth on its sides, the operating-lever fulcrumed on the standard, the pawls depending from said lever and engaging the ratchet-teeth on the sides of the lifting-bar, and the locking-pawls pivoted to the standard below the lifting-pawls and engaging the ratchet-teeth on the lifting-bar, as set forth.

2. The combination of the hollow standard, the lifting-bar mounted therein and provided with ratchet-teeth on its sides, the operating-lever fulcrumed on the standard and having locking-pawls depending from its ends and

engaging said ratchet-teeth, the locking-pawls pivoted within the standard and engaging the ratchet-teeth, and the treadle pivoted on the standard and adapted to release the locking-pawls from the ratchet-teeth, as set forth.

3. The combination of the hollow standard having longitudinal slots in its sides, the pins N P, secured within the standard and extending across said slots, the operating-lever fulcrumed on the standard, the lifting-pawls depending from the operating-lever and having their lower ends curved and adapted to impinge on the pins N, the spring secured on the standard and bearing on the said pawls, the locking-pawls pivoted within the standard and having their upper ends adapted to strike against the pins P, the spring Q, secured on the standard and bearing on the locking-pawls, the treadle pivoted on the standard and adapted to vibrate the locking-pawls, and the lifting-bar mounted in the standard and engaged by the locking and the lifting pawls, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES TINDALL.

Witnesses:

W. G. NUTTLE,
EMANUEL DAVIS.